

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 – 56. (Canceled)

57. (Previously presented) A method for establishing a wireless communication at a base station, the method comprising:

detecting an omnidirectional sounding pulse from a wireless transmit/receive unit (WTRU) on a frequency that is in close proximity to uplink and downlink frequencies and is different from the uplink and downlink frequencies;

communicating information related to the detected omnidirectional sounding pulse to an interface;

receiving from the interface a relative location of the WTRU and a notification to establish a wireless communication with the WTRU;

using a selectively operable beamforming antenna to direct a common channel toward the relative location of the WTRU; and

establishing a wireless communication with the WTRU.

58. (Previously presented) The method of claim 57 wherein the communicated information related to the detected omnidirectional sounding pulse includes information to facilitate determining the relative location of the WTRU.

59. (Previously presented) The method of claim 58 wherein the communicated information related to the detected omnidirectional sounding pulse includes signal strength information, where the signal strength information indicates that the received signal strength crossed a threshold.

60. (Previously presented) The method of claim 57 wherein the communicated information related to the detected omnidirectional sounding pulse includes geolocation information.

61. (Previously presented) The method of claim 57 further comprising transmitting a cyclic sweeping beacon channel.

62. (Previously presented) The method of claim 57 wherein detecting the omnidirectional sounding pulse includes detecting at least one of a plurality of omnidirectional sounding pulses.

63. (Previously presented) The method of claim 62 wherein the plurality of omnidirectional sounding pulses includes a first pulse having a first signal strength and a second pulse having a second signal strength, where the second signal strength is greater than the first signal strength.

64. (Previously presented) A method for establishing a wireless communication at a base station, the method comprising:

detecting an omnidirectional sounding pulse from a wireless transmit/receive unit (WTRU) on a frequency that is in close proximity to uplink and downlink frequencies and is different from the uplink and downlink frequencies;

using a selectively operable beamforming antenna to direct a common channel toward a relative location of the WTRU; and
establishing a wireless communication with the WTRU.

65. (Previously presented) The method of claim 64 including determining the relative location of the WTRU based on information related to the detected omnidirectional sounding pulse.

66. (Previously presented) The method of claim 65 wherein the information related to the detected omnidirectional sounding pulse includes signal strength information, where the signal strength information indicates that the received signal strength crossed a threshold.

67. (Previously presented) The method of claim 64 wherein the omnidirectional sounding pulse includes geolocation information.

68. (Previously presented) The method of claim 64 further comprising transmitting a cyclic sweeping beacon channel.

69. (Previously presented) The method of claim 64 wherein detecting the omnidirectional sounding pulse includes detecting at least one of a plurality of omnidirectional sounding pulses.

70. (Previously presented) The method of claim 69 wherein the plurality of omnidirectional sounding pulses includes a first pulse having a first signal

strength and a second pulse having a second signal strength, where the second signal strength is greater than the first signal strength.

71. (Previously presented) A base station comprising:
 - a selectively operable beamforming antenna;
 - a receiver configured to detect an omnidirectional sounding pulse from a wireless transmit/receive unit (WTRU) on a frequency that is in close proximity to uplink and downlink frequencies and is different from the uplink and downlink frequencies;
 - a transmitter configured to communicate information related to the detected omnidirectional sounding pulse to an interface; and
 - a processor configured to begin a wireless communication with the WTRU in response to receiving a relative location of the WTRU and a notification to establish a wireless communication with the WTRU by selectively operating the beamforming antenna to direct a common channel toward the relative location of the WTRU.

72. (Canceled)

73. (Previously presented) The base station of claim 72, wherein the transmitter is configured to communicate signal strength information to the interface, where the signal strength information indicates that the detected omnidirectional sounding pulse signal strength crossed a threshold.

74. (Previously presented) The base station of claim 71, wherein the omnidirectional sounding pulse includes geolocation information.

75. (Previously presented) The base station of claim 71 wherein the selectively operable beamforming antenna is configured to transmit a cyclic sweeping beacon channel.

76. (Previously presented) A base station comprising:
a selectively operable beamforming antenna;
a receiver configured to detect an omnidirectional sounding pulse from a wireless transmit/receive unit (WTRU) on a frequency that is in close proximity to uplink and downlink frequencies and is different from the uplink and downlink frequencies; and
a transmitter configured to begin a wireless communication with the WTRU in response to detecting the omnidirectional sounding pulse by selectively operating the beamforming antenna to direct a common channel toward a relative location of the WTRU.

77. (Previously presented) The base station of claim 76, wherein the transmitter is configured to determine the relative location of the WTRU from information related to the detected omnidirectional sounding pulse.

78. (Previously presented) The base station of claim 77, wherein the transmitter is configured to determine the relative location of the WTRU from signal strength information, where the signal strength information indicates that the detected omnidirectional sounding pulse signal strength crossed a threshold.

79. (Previously presented) The base station of claim 76, wherein the receiver is configured to detect geolocation information in the omnidirectional sounding pulse.

80. (Previously presented) The base station of claim 76 wherein the selectively operable beamforming antenna is configured to transmit a cyclic sweeping beacon channel

81. (Previously presented) The base station of claim 76 configured to detect a plurality of omnidirectional sounding pulses from a WTRU and to begin a wireless communication with the WTRU in response to detecting an omnidirectional sounding pulse from the WTRU that has a signal strength greater than a threshold.

82. (Previously presented) A wireless transmit/receive unit (WTRU) comprising:

an antenna configured to transmit an omnidirectional sounding pulse on a frequency that is in close proximity to uplink and downlink frequencies and is different from the uplink and downlink frequencies to establish a wireless communication with a base station;

the WTRU configured to receive a directional common channel from the base station; and

the WTRU configured to begin the wireless communication with the base station.

83. (Previously presented) The WTRU of claim 82 configured to include signal strength information in the omnidirectional sounding pulse.

84. (Previously presented) The WTRU of claim 82 configured to include location information in the omnidirectional sounding pulse.

85. (Previously presented) The WTRU of claim 82 further comprising: a global positioning system (GPS) device configured to determine location information.

86. (Previously presented) The WTRU of claim 82 wherein the antenna is an isotropic antenna configured to transmit equally in all directions.

87. (Previously presented) The WTRU of claim 82 wherein the antenna is a selectively operable beamforming antenna configured to transmit directional beams and omnidirection sounding pulses comprising a plurality of directional sounding pulses.

88. (Previously presented) The WTRU of claim 82 wherein the antenna is configured to transmit a series of omnidirectional sounding pulses to establish a new wireless communication where each pulse is transmitted at a greater signal power than a previous pulse.